LJ-86-12

SOUTHWEST FISHERIES CENTER

NATIONAL MARINE FISHERIES SERVICE SOUTHWEST FISHERIES CENTER P.O. BOX 271 LA JOLLA, CA 92038

MAY 1986

AN EVALUATION OF MICROCOMPUTER PROJECT MANAGEMENT PROGRAMS FOR USE AT THE SOUTHWEST FISHERIES CENTER

By

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ADMINISTRATIVE REPORT LJ-86-12

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I. INTRODUCTION

This report documents the results of a study to determine the availability of microcomputer project management programs and to evaluate their potential utility for managers of the Southwest Fisheries Center (SWFC).

The study was conducted at the request of the SWFC Planning Officer who was interested in the possible applications of microcomputer project management programs to the Center's strategic and operational planning activities. Of particular interest were those programs which allow illustration of the relationships between concepts, objectives, or tasks by the use of PERT diagrams. The Planning Officer felt that this capability could be very useful during Center planning sessions where interactive management techniques are frequently employed. Also of interest were those programs which could be used by task or group leaders in project planning, work scheduling, and project tracking. For this purpose, the Planning Officer considered the capability to generate Gantt diagrams to be an essential program feature.

II. APPROACH

This study was divided into two phases: 1) a literature review to determine which of the project management programs now available are best suited to meet the requirements of the SWFC and 2) user evaluation of selected programs.

III. RESULTS

A. Literature Review

Although project management programs have been available for use on mainframe computers for a number of years, microcomputer applications have only recently been introduced. However, there already exists a considerable body of published information in the various computer trade magazines and journals concerning these programs. A literature search produced references to numerous articles. Those articles that were found to be most useful in the course of this study are listed in appendix A. Additional technical information was obtained by telephone communications with vendors and software development firms.

Much of this phase of the study was devoted to determining the capabilities and limitations of the numerous project management programs now on the market. Although both CP/M and PC/MS DOS programs were initially considered, no CP/M programs were identified which met the basic

PERT and Gantt diagram capability requirements described above. IBM compatibility was also considered important since most of the microcomputers now installed at the SWFC are IBM compatible machines.

Other SWFC requirements helped to further narrow the field of potential candidates. Moderate price was an important consideration, since several copies of a program might be purchased if it was adopted for use by SWFC task and group leaders. As a result, only those programs priced at less than $2000.00 were fully evaluated. Potential vendor support and assistance were also considered, if on a somewhat subjective basis. For the most part, only those programs with proven "track records" for consumer acceptance, high volume sales from well-established software firms, and positive reviews in computer trade publications were considered for further evaluation. Laser printer support was also considered, although this capability was not viewed as essential for a program's use at the SWFC.

From a pool of dozens of project management programs, five emerged as particularly promising. These programs were consistently at the top of the list in reviews of project management software and appeared to meet or exceed the Center's requirements. They were:

Program	Software Firm
1) Project	Microsoft Corp.
2) Project Manager Workbench	Applied Business Technology Corp.
3) Superproject Plus	Sorcim/IUS
4) Timeline	Breakthrough Software Inc.
5) Total Project Manager	Harvard Software Inc.

B. User Evaluation

Demo disks, or complete software packages when available, were evaluated for each of the above programs. The software firms or vendors from whom evaluation materials were obtained are summarized in appendix B. Although an attempt was made to follow a standardized evaluation procedure for each of the programs, this was not always possible since the materials provided for review differed a great deal from program to program. In some instances, a complete evaluation could not be made due to limitations of the demo disks. For example, demo disks for two of the programs would not allow saving files or printing reports. Copies of available representative reports are attached as appendix C.

Figure 1 summarizes general program information and the rating results from this evaluation. The paragraphs that follow provide additional program data and reviewer comments.

EVALUATION SUMMARY

PROGRAM	PRICE	MINIMUM MEMORY REQUIRED	OPERATING SYSTEM (PC/MS DOS)	MAXIMUM NUMBER OF TASKS/PROJECT	MAXIMUM NUMBER OF RESOURCES/TASK	TASK DURATION UNITS	RESOURCE MEASUREMENT UNITS	LASER PRINTERS SUPPORTED?	COPY PROTECTED?	INTERFACE TO OTHER PROGRAMS	EASE OF LEARNING	EASE OF USE	QUALITY OF TUTORIAL/MANUALS	QUALITY AND USEFULNESS OF REPORTS	APPLICABLE TO NEEDS OF SWFC	OVERALL RATING
	GENERAL DATA/PROGRAM CAPABILITIES										RATINGS					
PROJECT Microsoft Corp.	$395	256K	2.0+	200	8	MINS. HOURS DAYS WEEKS MONTHS YEARS	USER DEFINED	YES	NO	DBASE II LOTUS 1-2-3 MS CHART MS MULTIPLAN	8	8	10	10	● 10	10
PROJECT MANAGER WORKBENCH Applied Business Tech. Corp.	$1,150	384K	2.0+	RAM LIMITED	6	HOURS DAYS %	HOURS DAYS %	YES	YES	DBASE III LOTUS 1-2-3	4	5	*5	4	5	5
SUPERPROJECT PLUS Sorcim/IUS	$395	256K	2.0+	1600 WITH 512K RAM	RAM LIMITED	SINGLE HOURS %	USER DEFINED	YES	NO	DBASE II & III LOTUS 1-2-3 SUPERCALC 3	9	8	8	5	6	8
TIMELINE Breakthrough Software Inc.	$395	256K	2.0+	700 WITH 512K RAM	16	MINS. HOURS DAYS WEEKS	HOURS	YES	NO	DBASE II & III LOTUS 1-2-3 SUPERCALC WORKSTAR Does not allow co-resident programs in RAM	4	5	*7	6	5	6
TOTAL PROJECT MANAGER Harvard Software Inc.	$395	384K	2.0+	200	UNLTD.	MINS. HOURS DAYS WEEKS MONTHS YEARS	USER DEFINED	NO	YES	ANY DIF PROGRAM	8	8	*8	2	2	4

RATINGS (1-10)
10 = Exceptional
5 = Average
1 = Poor
* Manual not available

Project, Microsoft Corp.

A new, and greatly enhanced, version of Project (2.0) was released as this study was taking place. Among this program's many useful features are:

1) Optional automated scheduling function (ASAP & ALAP)
2) Resources can be material, people, equipment etc.
3) Time scale on Gantt diagram is variable from minutes to years
4) Schedule increments can be as small as 15 minutes or as large as 6 months
5) Can incorporate workweek and daily work schedule of each person into project planning data
6) Work schedule, holidays etc., are stored on a separate file allowing use of this information for more than one project
7) Excellent, comprehensive on-disk tutorial
8) Allows milestones as well as tasks to be identified and displayed in reports
9) Tasks and milestones can be inserted, deleted, and modified easily
10) "Slack time" as well as critical and non-critical path is indicated on both Gantt and PERT diagrams
11) Relationship links between tasks are easily modified
12) Task/milestone box size on PERT diagram is variable
13) "Zoom" function allows entire PERT diagram (or selected portions) to be viewed on the screen
14) 16 high-quality reports are available. 8 of these reports compare actual accomplishment against planned schedule, costs, etc.
15) Report titles can be customized (up to three lines of text)
16) User notes on individual tasks can be included on some reports
17) Most reports allow the user to select and sort the data to be displayed
18) Reports provide very detailed information on workload for each resource including histograms
19) Subprojects can be edited separately and later linked, allowing easy data manipulation
20) Analysis function allows comparison between actual accomplishments, costs, etc. and original plan(s).
21) Prints PERT and Gantt diagrams sideways (very slowly)
22) PERT diagram is exceptionally clear and readable

The 30 lessons of the on-line tutorial require a considerable amount of time (about 5 hours) to complete.

Project Manager Workbench, Applied Business Technology Corp.

This program was recommended by the instructors of an information management class that several SWFC personnel attended. It is the most complex of the programs evaluated, and also the most expensive. The program offers the following noteworthy features:

1) An exceptionally clear PERT diagram
2) Prints PERT diagram sideways (very slowly)
3) Allows definition of phases/activities as well as tasks

4) Can view 45 days or weeks at a time on the screen. No limit to the overall project length
5) Screen color or monochrome presentation can be easily modified by user
6) Has automatic scheduling function to optimize resource and time use
7) Text processor allows reports to be annotated
8) Dependencies between tasks are clearly illustrated and easily changed

Of the five programs evaluated, this one was the most difficult to learn to use. The program is complex, and has a correspondingly complex tutorial. Although the program offers a text processing capability for customizing reports, the number and type of reports available are somewhat limited. With the exception of the PERT diagram, reports appear cluttered and are difficult to read. Very little information is displayed on the PERT diagram and the date shown for activity accomplishment does not include the year. Milestones are not displayed on the PERT diagram.

Superproject Plus, Sorcim/IUS

This program is exceptionally easy to learn to use. Unlike the other programs evaluated, where data can only be entered on a Gantt screen, Superproject Plus allows input to be made on a PERT, Gantt or Task Detail screen. Although somewhat cumbersome, the program allows the user to move blocks on the PERT diagram to any position with the use of the directional keys. Because of this, the PERT diagram is a very flexible display, and can be arranged so as to clearly represent complex relationships between tasks. Other features of this program include:

1) Reduced view or "zoom" function allows entire PERT diagram to be viewed on the screen
2) SIDEWAYS program is included allowing reports to be printed sideways (very slowly)
3) Very easy data entry and PERT chart generation with pull-down type menus
4) 20-character task title length on PERT diagram
5) Subprojects can be edited separately and later linked, allowing easy data manipulation
6) "Expert" mode allows menus to be bypassed by experienced users
7) Allows milestones as well as tasks to be identified and displayed in reports

Although most of the reports are very clearly formatted and readable, the Gantt diagram is difficult to understand when printed and nearly impossible to decipher on the screen. This is particularly true when tasks are entered in non-sequential order. Although additional tasks can be added and changes to task accomplishment dates made at any time, inserting tasks between those already entered is not possible. For the Gantt diagram to be understandable, all tasks must be identified and their order of accomplishment established before any data is entered.

Timeline, Breakthrough Software Inc.

Timeline offers a number of very useful features, particularly for cost accounting applications. Among them are:

1) Allows resource pooling (group resources)
2) Provides resource histogram showing workload
3) Has automatic leveling function to adjust workload of resources among tasks
4) Has filtering capability allowing user to display selectively only the tasks desired on reports and screens
5) Subprojects can be edited separately and later linked, allowing easy data manipulation
6) Numerous reports are available, most are particularly suitable for cost analysis
7) Gantt screen allows simultaneous viewing of task summary information
8) Uses Lotus 1-2-3 type menus
9) Tasks can be added, inserted, and changed very easily
10) Excellent help prompts and information
11) 29-character task title length on PERT diagram

One of the disadvantages of this program is that it will not permit co-resident programs such as Sidekick to be loaded in RAM. Although the PERT diagram allows an unlimited number of relationship links to be illustrated between tasks, it is difficult to interpret since all tasks are displayed on a single line and their links with other tasks are shown above and below this line. The program was relatively difficult to learn to use and a great deal of information is needed to start setting projects up. A skilled operator would find this a powerful program, if somewhat cumbersome, and particularly suited for cost analysis applications.

Total Project Manager, Harvard Software Inc.

This program was highly recommended by several people. It has received considerable attention in management circles and was one of the first project management programs widely available for microcomputers. The program offers a few nice features including:

1) Good tutorial
2) Easy data entry, changes and moves
3) Windowing capabilities for viewing task detail information while Gantt or PERT diagrams are displayed on the screen

Unfortunately, this program's PERT diagram displays only the order in which tasks are scheduled to be completed. The user is not able to illustrate other relationship links between tasks. This severely limits the program's utility as a planning tool for the SWFC.

IV. CONCLUSIONS

Very few CPM microcomputer project management programs are currently available, and none appear to meet the SWFC's needs for PERT and Gantt diagram generation capability. Of the five MS/PC DOS programs selected for user evaluation, Microsoft's Project software and manual received the highest overall rating. Although all of these programs were written primarily for business applications, Project demonstrated considerably more flexibility in terms of acceptable resource types, task definitions, task relationships, and report content than the other programs evaluated. Consequently, of the microcomputer project management programs presently available, Project is considered to possess the most potential utility for scientific program and project planning applications.

APPENDIX A. BIBLIOGRAPHY

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Swersey, P.J., Super Project: Project Management Software from the Maker of SuperCalc. Popular Computing Vol.4,No. 11, Sept.1985, pp. 99-102.

APPENDIX B. SOURCES OF PROGRAM EVALUATION MATERIALS

Project

Microsoft Corporation
10700 Northup Way
Box 97200
Bellevue, WA 98009

Phone: (800) 426-9400 (Sharon Decker, Government Acct. Rep.)
Received full copy of program, tutorial, and manual

Project Manager Workbench

Applied Business Technology Corporation
365 Broadway
New York, NY 110013

Phone: (212)219-8945
Received free demo disk

Superproject Plus

Sorcim/IUS
Technology Services Inc.
Micro Products Division
2195 Fortune Drive,
San Jose, CA 95131

Phone: (916) 443-6193 (Claudia)
Received full copy of program, tutorial, and manual

Timeline

Breakthrough Software Corp.
505 San Marin Dr.
Novato, CA 94947

Phone: (415) 898-1919
Demo disk can be purchased for $10.00

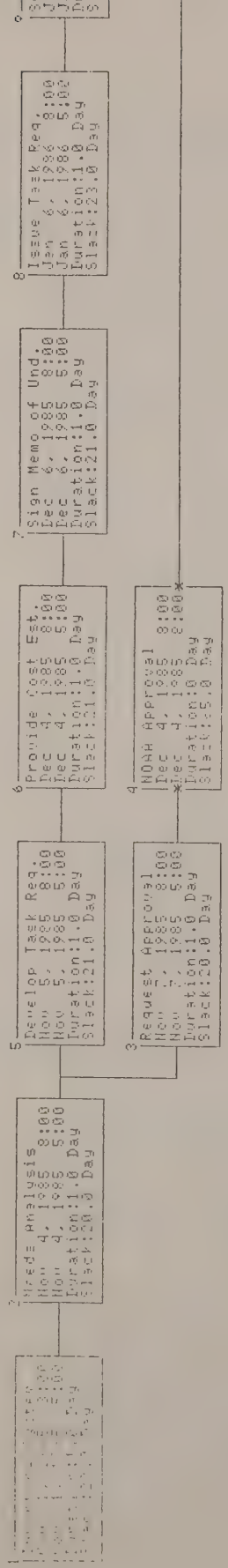
Harvard Total Manager

Software Publishing Corp.
1901 Landings Dr.
Mountain View, CA 94043

Phone: (415) 962-8910
Demo disk can be purchased for $10.00

APPENDIX C. COPIES OF REPRESENTATIVE REPORTS

1. **Project,** Microsoft Corp.
2. **Project Manager Workbench,** Applied Business Tech. Corp.
3. **Superproject Plus,** Sorcim/IUS



Project
Pert Diagram

Project
Gantt Diagram

Telephone Procurement

Project: TEMP
Resource: Kirch
Amount Used: 29.Ø Days

Date: Nov 1, 1985 8:33 AM
Unit Cost: $Ø.ØØ per Hour
Total Cost: $Ø.ØØ

#	Activity:		
1	Inventory System	Early Start: Nov 1, 1985 8:ØØ AM Early Finish: Nov 1, 1985 5:ØØ PM	Duration: 1.Ø Day Slack: 2Ø.Ø Days Amount Used: 1.Ø Cost: $Ø.ØØ
		Late Start: Nov 29, 1985 8:ØØ AM Late Finish: Nov 29, 1985 5:ØØ PM	
		Sched Start: Nov 1, 1985 8:ØØ AM Sched Finish: Nov 1, 1985 5:ØØ PM	
2	Needs Analysis	Early Start: Nov 4, 1985 8:ØØ AM Early Finish: Nov 4, 1985 5:ØØ PM	Duration: 1.Ø Day Slack: 2Ø.Ø Days Amount Used: 1.Ø Cost: $Ø.ØØ
		Late Start: Dec 2, 1985 8:ØØ AM Late Finish: Dec 2, 1985 5:ØØ PM	
		Sched Start: Nov 4, 1985 8:ØØ AM Sched Finish: Nov 4, 1985 5:ØØ PM	
3	Request Approval	Early Start: Nov 5, 1985 8:ØØ AM Early Finish: Nov 5, 1985 5:ØØ PM	Duration: 1.Ø Day Slack: 2Ø.Ø Days Amount Used: 1.Ø Cost: $Ø.ØØ
		Late Start: Dec 3, 1985 8:ØØ AM Late Finish: Dec 3, 1985 5:ØØ PM	
		Sched Start: Nov 7, 1985 8:ØØ AM Sched Finish: Nov 7, 1985 5:ØØ PM	
5	Develop Task Req.	Early Start: Nov 5, 1985 8:ØØ AM Early Finish: Nov 5, 1985 5:ØØ PM	Duration: 1.Ø Day Slack: 21.Ø Days Amount Used: 1.Ø Cost: $Ø.ØØ
		Late Start: Dec 4, 1985 8:ØØ AM Late Finish: Dec 4, 1985 5:ØØ PM	
		Sched Start: Nov 5, 1985 8:ØØ AM Sched Finish: Nov 5, 1985 5:ØØ PM	

Telephone Procurement

Project: TEMP Date: Nov 1, 1985 8:33 AM

---

6 Provide Cost Est.

Duration: 1.0 Day
Slack: 21.0 Days

Early Start: Nov 6, 1985 8:00 AM
Early Finish: Nov 6, 1985 5:00 PM

Late Start: Dec 5, 1985 8:00 AM
Late Finish: Dec 5, 1985 5:00 PM

Sched Start: Dec 4, 1985 8:00 AM
Sched Finish: Dec 4, 1985 5:00 PM

Resources Allocated:

Name	Duration (days)	Amount used	Cost	Cost Basis	Cost to Complete
GSA	1.0	1.0	$0.00	Hour	$0.00
Total:					$0.00

Predecessors:

5 Develop Task Req.
Slack avail: 21.0 Days

Early Finish: Nov 5, 1985 5:00 PM
Late Finish: Dec 4, 1985 5:00 PM

Successors:

7 Sign Memo of Und.
Slack avail: 21.0 Days

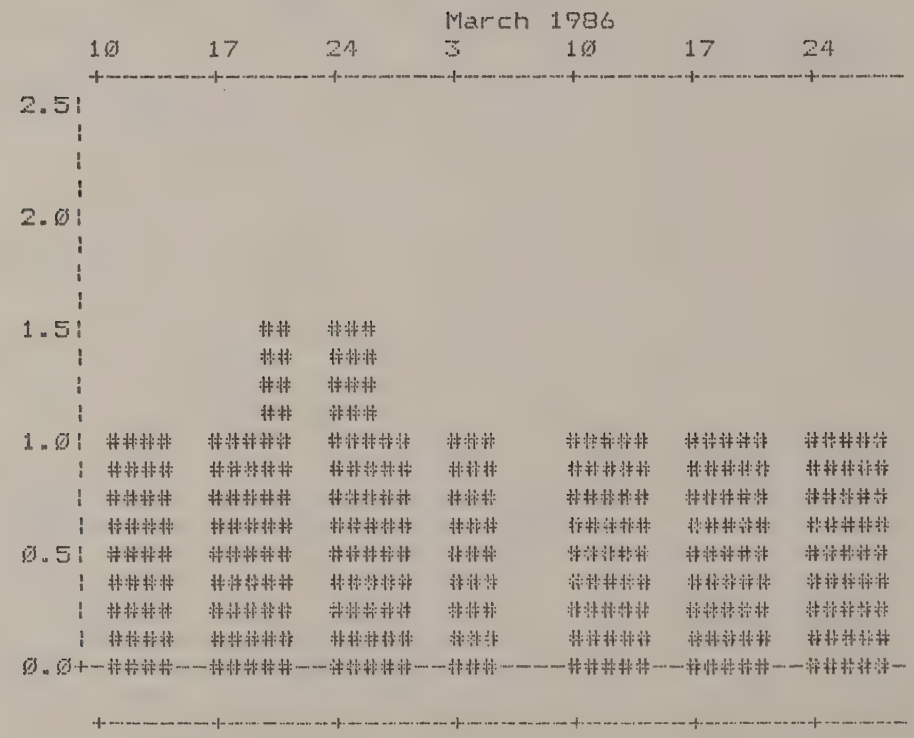
Early Start: Dec 5, 1985 8:00 AM
Late Start: Jan 3, 1986 8:00 AM

test histogram

Project: TEMP Date: Feb 11, 1986 12:59 AM

Resource: herb

Unit Cost: $0.00/Hour Total days: 36.5 Total Cost: $0.00



Project
Resource Histogram

Project Manager Workbench
PERT Diagram

JAN 23 86
PAGE 1

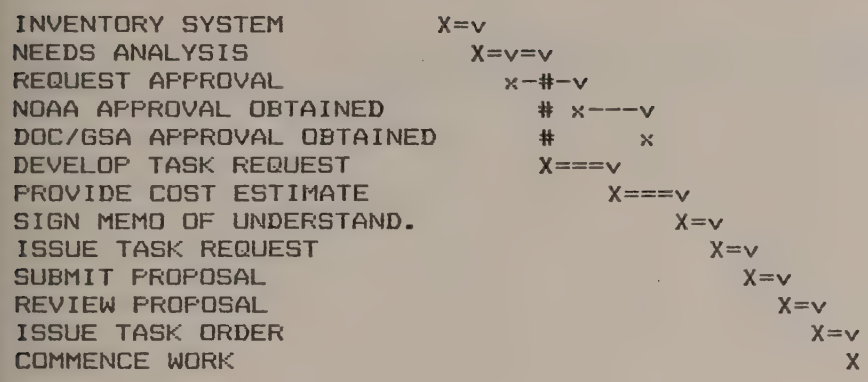
PROJECT: TELEPHONE PROCUREMENT
FILE: .....

TELEPHONE PROCUREMENT	Da	Who	1985 Nov	Dec	1986 Jan	Feb	Mar	Apr	May	Jun
INVENTORY SYSTEM	1	HMK	C	.	.	.	.	.	.	.
NEEDS ANALYSIS	1	HMK	C	.	.	.	.	.	.	.
REQUEST APPROVAL	0	HMK	-	.	.	.	.	.	.	.
NOAA APPROVAL OBTAINED	0	IMS		.-	.	.	.	.	.	.
DOC/GSA APPROVAL OBTAINED	1	DOC		.	.	-	.	.	.	.
DEVELOP TASK REQUEST	1	HMK		.C	.	.	.	.	.	.
PROVIDE COST ESTIMATE	1	GSA		.	.	.	.	.	.	.
SIGN MEMO OF UNDERSTAND.	1	WASC		.C	.	.	.	.	.	.
ISSUE TASK REQUEST	1	GSA		.	.C	.	.	.	.	.
SUBMIT PROPOSAL	10	CRC		.	. C--	.	.	.	.	.
REVIEW PROPOSAL	10	HMK G		.	.	C	.	.	.	.
ISSUE TASK ORDER	5	GSA		.	.	.C-	.	.	.	.
COMMENCE WORK	0	CRC		.	.	.	.	.	.	.

Project Manager Workbench
Gantt Diagram

JAN 23 86 TELEPHONE PROCU
REMENT PAGE 1

FILENAME: .....



Project Manager Workbench
Task Network

JAN 23 86
PAGE 2

PROJECT: TELEPHONE PROCUREMENT
FILE: .....

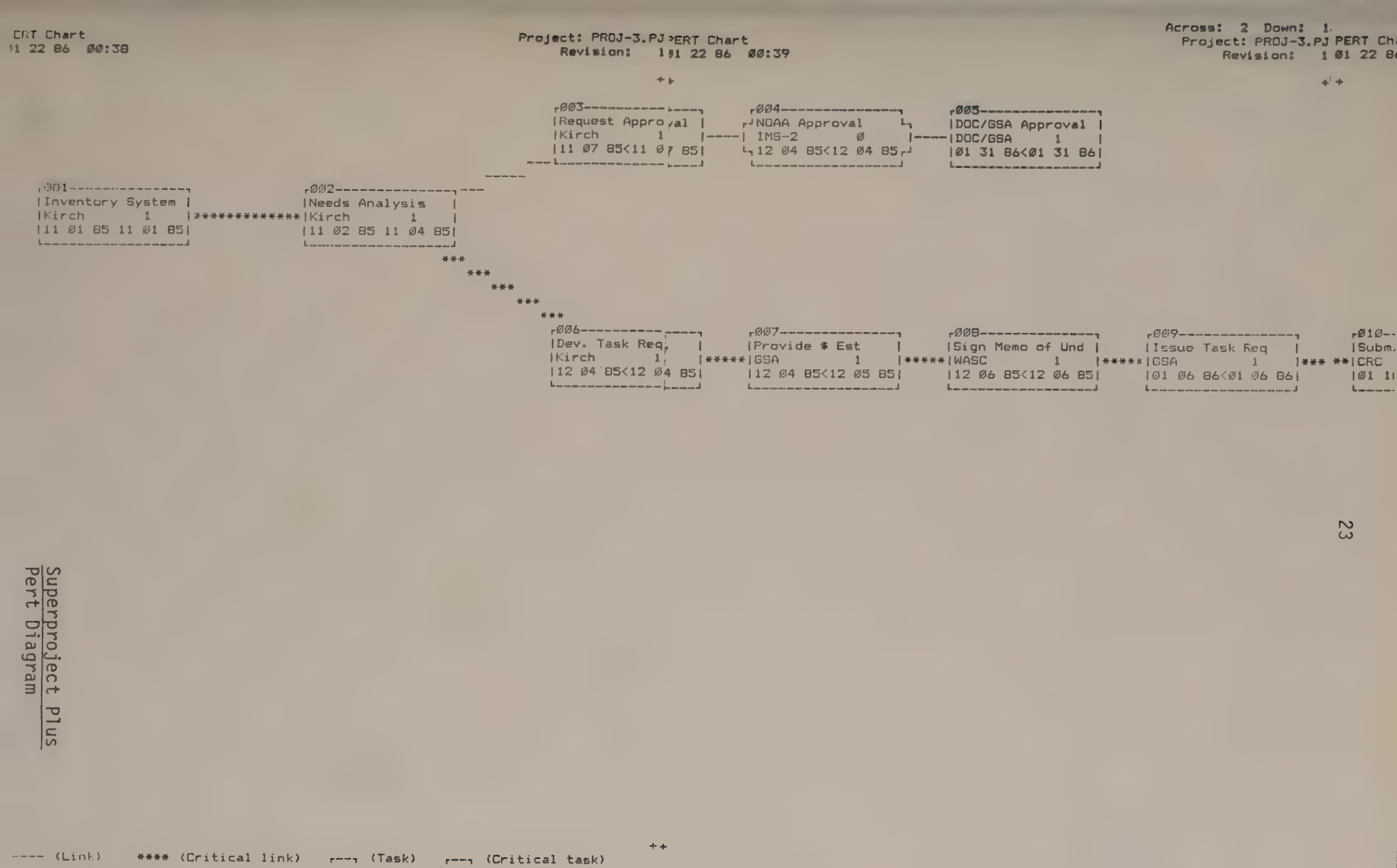
TELEPHONE PROCUREMENT	Da	Who	1985 Nov	1985 Dec	1986 Jan	1986 Feb	1986 Mar	1986 Apr	1986 May	1986 Jun
RESOURCE SUMMARY										
HERB KIRCH	5.0	HMK	2	1	5					
NOAA IMS-2, GILDARK	5.0	IMS								
DOC HDQ/GSA	5.0	DOC			1					
GSA INFO. MANAGEMENT	5.0	GSA			6	5				
WASC CONTRACTING	5.0	WASC		1						
CRC, GSA CONTRACTOR	5.0	CRC			10					
TOTAL DAYS			2	2	22	5				

JAN 23 86 ACTIVITY STATUS - ACTUAL
VS PLAN PAGE 2
PROJECT: TELEPHONE PROCUREMENT
FILE: .....

		Cost				Start		End		
ho	Actual (+) To-Date	Fcst (=) To-Cmpl	Latest (vs) Estimate	Status Orig (=) Plan	CP Ahead (Behind)	Planned	Rev/act	Planned	Rev/act	W
LL	0	0	0	0	0					A
T480	ISSUE TASK ORDER				Y	2-05-86		2-11-86		F
ixd	0	0	0	0	0					
	(TASK ORDER)									G
SA	0	0	0	0	0					
	--TASK ORDER ISSUED									
T520	COMMENCE WORK					10-28-85		10-28-85		F
ixd	0	30,000	30,000	30,000	0					
	(START WORK)									C
RC	0	0	0	0	0					
	--TELECOMMUNICATIONS SER									
TOTAL	PROJECT					10-28-85		12-04-86		F
ixd	0	30,000	30,000	30,000	0					
LL	0	0	0	0	0					A

JAN 23 86 ACTIVITY STATUS — ACTUAL
VS PLAN PAGE 3
PROJECT: TELEPHONE PROCUREMENT
FILE: .....

ho	Actual (+) Fcst (=) Latest (vs) Orig (=) Ahead					----- Start ---- Planned	Rev/act	------ End ----- Planned	Rev/act
	To-Date	To-Cmpl	Estimate	Plan	(Behind)				
RESOURCE SUMMARY									
	HERB KIRCH								
MK	0	0	0	0	0				
	NOAA IMS-2, GILDARK								
MS	0	0	0	0	0				
	DOC HDQ/GSA								
OC	0	0	0	0	0				
	GSA INFO. MANAGEMENT								
SA	0	0	0	0	0				
	WASC CONTRACTING								
ASC	0	0	0	0	0				
	CRC, GSA CONTRACTOR								
RC	0	0	0	0	0				
ixd	0	30,000	30,000	30,000	0				
TOTAL PROJECT						10-28-85		12-04-86	
ixd	0	30,000	30,000	30,000	0				
LL	0	0	0	0	0				


CRT Chart
Project: PROJ-3.PJ PERT Chart
Revision: 1 01 22 86 00:39
Across: 2 Down: 1.
001 Inventory System
Kirch 1
11 01 85 11 01 85
002 Needs Analysis
Kirch 1
11 02 85 11 04 85
003 Request Approval
Kirch 1
11 07 85<11 07 85
004 NOAA Approval
IMS-2 0
12 04 85<12 04 85
005 DOC/GSA Approval
DOC/GSA 1
01 31 86<01 31 86
006 Dev. Task Req
Kirch 1
12 04 85<12 04 85
007 Provide $ Est
GSA 1
12 04 85<12 05 85
008 Sign Memo of Und
WASC 1
12 06 85<12 06 85
009 Issue Task Req
GSA 1
01 06 86<01 06 86
010
Subm
CRC
01 1
---- (Link) **** (Critical link) (Task) (Critical task)

```
| 3 Days Per Symbol  |Nov 85 Nov     Dec     Jan 86 Jan     Feb     Mar     Mar     |
|Resource: All Tasks |Ø1     22      13      Ø3     24      14      Ø7      28      |
|---|----------------|-------------------------------------------------------------|
|Ø13|Commence work   |.----.-.----.-.----.-.----.-.----.M.----.-.----.-.----.-.----.-.|
|Ø12|Issue Task Order|.----.-.----.-.----.-.----.-.--->XXX.----.-.----.-.----.-.----.-.|
|Ø11|Review Proposal |.----.-.----.-.----.-.----.-.XX--.-.----.-.----.-.----.-.----.-.|
|Ø10|Submit Proposal |.----.-.----.-.----.-.>XXXXX.----.-.----.-.----.-.----.-.----.-.|
|Ø09|Issue Task Req  |.----.-.----.>.>>>>.>.X---.-.----.-.----.-.----.-.----.-.----.-.|
|Ø08|Sign Memo of Und|.----.-.---X.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|Ø07|Provide $ Est   |.----.-.---X.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|Ø06|Dev. Task Req.  |.>>>>.>.>>>X.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|Ø05|DOC/GSA Approval|.----.-.---->.>.>>>>.>.>>>>.>.>x^^.-.----.-.----.-.----.-.----.-.|
|Ø04|NOAA Approval   |.->>>.>.>>>m.>.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|Ø03|Request Approval|.>x>>.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|Ø02|Needs Analysis  |.>>>-.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|Ø01|Inventory System|X----.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.----.-.|
|   |                |                                                             |
|   |                |                                                             |
|   |                |                                                             |
```

rint Screen Project: PROJ-3.PJ

Task ID: Ø12
Task Name: Issue Task Order
Connected:
Duration: 5
Delay: 4
Free Float: Ø
Total Float: Ø
Description:

	Start	Finish
Early:	Ø2 Ø1 86	Ø2 11 86
Late:	Ø2 Ø5 86	Ø2 11 86
Actual:		
Must:	Ø2 Ø5 86	

Var. Cost: 1ØØØ
Fixed Cost: Ø
Total Cost: 1ØØØ
Status: Task Scheduled
On Critical Path

Resource	Pr	Bilbl	Rate	Fixed x	Total	Predecessors		Successors	
GSA/WASC	5Ø	8.ØØ	25.ØØ	Øx	1ØØØ	Ø11	Review Propos	Ø13	Start work

Resource Name: GSA/WASC
Allocate By: Single Hours Percent
Alert Level: 0
SMTWTFS
Weekends: Y Y

Description:

Defaults	
Billable:	8.00
Rate:	25.00
Fixed:	0
Hours:	8
Priority:	50

Var. Cost: 1000
Fixed Cost: 0
Total Cost: 1000

Times Dur: Yes No

ID	Task	Pr	Hrs	Bilbl	Rate	Fixed	Dur	Total	Start	Finsh	Status
012	Issue Task Order	50	8	8.00	25.00	0x	5	1000	02 01	02 11	Sched

Print Screen

Project: PROJ-3.PJ

1 Days Per Symbol	Jan 86 Jan	Jan	Feb	Feb	Feb	Feb	Mar
Resource: GSA/WASC	13	20	27	03	10	17	24	03
012 Issue Task Order	.....	.....	.....	>>XXX	XX...	.....	.....	.....

Calendar for: Kirch * Work Scheduled

1986	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Feb	Ø2 WKND	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8 WKND
Feb	Ø9 WKND	1Ø	11	12	13	14	15 WKND
Feb	16 WKND	17	18	19	2Ø	21	22 WKND
Feb Mar	23 WKND	24	25	26	27	28	Ø1 WKND
Mar	Ø2 WKND	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8 WKND